

contacts on one side thereof. The plurality of contacts is arranged in at least one row extending substantially in the orientation direction of the at least one contact spring. The plurality of contacts is spaced apart such that the projection of the at least one contact spring forms a detent fit in a space between each pair of adjacent contacts in the at least one row. A portion of the at least one contact spring makes electrical contact with the pair of adjacent contacts when the projection forms the detent fit to thereby form an electrical connection between the pair of adjacent contacts in the at least one row.

Takano is directed to a slide switch having a movable conductor which serves as a movable contact. The contact is movable relative to fixed parallel bus-bar conductors. The slide switch includes a slide body 12 which fits into housing 10. A movable contact 16 is disposed inside slide body 12. The slide switch also includes a bottom plate 10d. Bottom plate 10d includes recesses 20 b' which accommodate the contact portions of bus-bar conductor strips 22. Thus, when bottom plate 10d is secured to housing 10, the contact portions of conductor strips 22 are pressed against movable contact 16. Conductor strips 22 also extend outside of housing 10 to provide electrical contact with an external circuit (Col. 4, lines 46 – 50, col. 5, lines 59 – 60).

According to **MPEP 2131**, “to anticipate a claim, the reference must teach every element of the claim.” A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The Applicants maintain the arguments presented in the last response.

#### **Response to Examiner's Arguments**

##### **1. Bottom Plate 10d**

The Examiner asserts that plate 10d is a circuit board because the “member is a board and it supports portions of a circuit.” In doing so, the examiner makes a distinction between a “circuit board” and a “printed circuit board.” The Applicants respectfully assert that those of ordinary skill in the art would not interpret plate 10d as a circuit board for the following reasons.

The plain language of the Takano reference contradicts the Examiner's assertions. Applicants note that Takano was filed in 1993. Certainly, circuit boards were well known by that time. As the Applicants explicitly pointed out to the Examiner in their last response, Takano himself refers to member 10d as a “bottom plate” rather than a circuit board (See col. 4, lines 20 – 21). Bottom plate 10d merely includes recesses to accommodate contact strips

22. However, the contact strips by and of themselves do not form circuits. Applicants believe that Takano refers to member 10d as a “bottom plate” rather than a circuit board because plate 10d does not include any circuitry, and does not perform any of the functions normally associated with a circuit board.

The Examiner states that she does not misidentify bottom plate 10d as a printed circuit board. In making this assertion, the Examiner attempts to make a distinction between a circuit board and a printed circuit board. The Examiner implies that while plate 10d is not a printed circuit board, it is a circuit board because it “supports a portion of a circuit.” Applicants point out that this rationale is suspect because housing 10 also supports the same portion of the circuit that bottom plate 10d supports. They have matching recesses. That fact does not make housing 10 a circuit board any more that it makes bottom plate 10d a circuit board.

The Applicants respectfully point out that the Examiner’s argument is also incorrect for another reason. The fact is that virtually every circuit board produced over the past twenty years until the present was a printed circuit board. Before printed circuit boards became state-of-the-art some twenty years ago, wire-wrap circuit boards were employed. In both cases, the composition and function of the circuit board is the same - a circuit board includes at least one circuit that is used to interconnect components disposed on the board. With a wire-wrap circuit board, components were disposed on a first side of a board and interconnected by copper wires disposed on the underside of the board. This technology was replaced by printed circuit board (PCB) technology approximately twenty years ago. Instead of interconnecting wires, PCBs typically include circuit traces disposed in layers within an insulating sheet of material. Applicant pointed out to the Examiner in the last response that Takano explicitly teaches a device that includes no internal circuitry. Col. 4, lines 46 – 50, and col. 5, lines 59 – 60, explain that conductors 22, by way of contacts 22a, extend from the housing to form external circuits. The Examiner failed to answer this argument in her last Office Action.

Takano referred to member 10d as a bottom plate and not as a circuit board for good reason. As explained in col. 4, lines 17 – 22, and shown in the exploded view of Figure 6, contact strips 22 are inserted into recesses 20a’ of housing 10. Subsequently, plate 10d is then attached to housing 10 by inserting contact strips 22 into recesses 20b’ of plate 10d, to thereby enclose the contact strips 22 within the housing 10. One end of contact strips 22 extends out of housing 10 for connection to external circuits. Takano aptly and functionally

refers to member 10d as a bottom plate, because it merely functions as the bottom portion of housing 10. Bottom plate 10d does not include any traces or wire, or any other interconnected components.

In sum, the applicants make several important points that the Examiner has failed appreciate. First, the plain language of Takano identifies member 10d as a bottom plate and not a circuit board. Second, the Examiner's comparison of a circuit board with a printed circuit board is a distinction without a difference. At the time of filing of the instant application and at the time of filing of Takano, the term "circuit board," as understood by those of ordinary skill in the art, was synonymous with the term "printed circuit board." Third, Takano's bottom plate 10d is not a circuit board. As noted above, the primary purpose of any circuit board is to interconnect a collection of electronic components that comprise an electronic circuit. Housing 10 does not contain any circuits and plate 10d does not interconnect any components.

For at least the aforementioned reasons, the Applicants respectfully assert that claim 1 is patentable under 35 U.S.C. § 102(b) because the Examiner has failed to point out where Takano discloses a circuit board as recited in claim 1. Claim 2 is patentable in its own right, and also patentable because it depends from claim 1.

#### **4. § 103 Rejections**

The Examiner has rejected claims 3 – 6 under 35 U.S.C. § 103 as being unpatentable for obviousness over Takano in view of U.S. Patent No. 5,293,103 to Hanna.

Hanna is directed to a linear actuator switch configured to adjust the setting of a fan speed control. The slide switch described by Hanna is mounted on a cradle which is disposed on a support plate. The support plate, in turn, is attached to a wall mounted electrical wallbox. The capacitors used to provide selectable impedance between the power carrying leads are directly mounted to the side of the slide-switch. The resistors used to bleed charge from the capacitors are directly connected to the capacitors (See Figure 6, col. 7, line 28 – col. 8, line 9). Thus, Hanna does not show these elements being mounted on a printed circuit board. The switch described by Hanna is coupled to an external fan motor armature winding by way of power lead 37. The switch receives input power from power carrying lead 35 (Figure 6, col. 7, lines 49 – 52).

According to the **MPEP 2143**, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the

references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

**Response to Examiner's Arguments**

**A. The prior art references do not teach or suggest all the claim limitations.**

The Hanna reference does not supply the claim elements missing from Takano. As pointed out above, the Examiner has failed to point out where Takano describes a circuit board wherein the plurality of contacts are arranged in at least one row extending substantially in the orientation direction of the at least one contact spring, as recited in claim 1. Hanna, like Takano, includes leads that are coupled to an external circuit. As pointed out repeatedly, neither reference describes a switch disposed in a housing that is mounted on a printed circuit board. Further, the Examiner has failed to point out where Hanna teaches the all of the limitations of claims 5 or 6.

Further, the Examiner has failed to point out where either Hanna or Takano discloses all of the switch positions recited in claims 4 – 6. Further, the Examiner has failed to point out where the references teach, suggest or disclose the number of rows of contact contacts is two.

**B. There is no suggestion or motivation to combine reference teachings.**

There is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. The Examiner responds by making conclusory statements saying that it would be obvious to combine some feature of Hanna with the switch described by Takano because the features are well known. The Applicant respectfully asserts that the Examiner is not using the proper legal standard. The Examiner's reasons for combining the references are not in accordance with established legal precedents.

**The Examiner has failed to answer the Applicants Arguments.** She merely responds by issuing a conclusory statement that since the features "are well known," they can be combined. Even if the Examiner was right in saying that the features were well known, and she is not, the rationale is not in accordance with the law.

1). The Examiner has failed to provide an objective teaching in the references for any of the stated reasons for combining the references

As pointed out in the last response, “[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification.” In re Fritch, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992). The Examiner must point to where the prior art suggests the desirability of the proposed combination. The Examiner has failed to perform this essential function. The Examiner did not, and is unable, to point to any place in Hanna where it suggests or provides a motive to modify the Takano structures to obtain the switch in the manner claimed by the Applicant. Instead, totally extraneous to the reference and contrary to the PTO's own rules, the Examiner suggests, without citing support in either reference, that it would be obvious to use, for example, capacitors in Takano's switch.

As noted in the last response, which the Examiner failed to answer, the U.S. Court of Appeals for the Federal Circuit has stated that the Examiner has the burden under 35 U.S.C. § 103 to establish a *prima facie* case of obviousness, and in the case of combined references, the Examiner can satisfy this burden “only by showing some objective teaching in the prior art . . . would lead that individual to combine the relevant teachings of the references.” In re Fine, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988). Moreover, both the suggestion and the reasonable expectation of success must be found in the prior art, not in the applicant's disclosure. In re Vaeck, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). The Examiner has failed to point to any objective teaching in the references for any of the stated reasons for combining the references. The Examiner merely concludes that features can be combined because they are well known.

2). The Examiner is using impermissible hindsight

As pointed out in the last response, which the Examiner failed to answer, the U.S. Court of Appeals for the Federal Circuit has emphasized that an Examiner “cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.” Fine, 5 U.S.P.Q.2d at 1600. In the instant case, the Examiner, now with the claims in mind, has selected and joined isolated parts of the references to assert Applicant's invention would have been obvious. For example, despite the fact that the RC circuit of the present invention is configured to reduce “hum,” and is completely different from the RC circuit depicted in Hanna, the Examiner asserts that one of ordinary skill in the art would be motivated to use the RC circuit disclosed by Hanna in

Takano's device to thereby obtain the applicants' invention. Applicants again point out that because the two RC circuits are different, **the combination does not result in the claimed invention.** Clearly, the Examiner is using impermissible hindsight to assert that the present invention is obvious in light of the combined references by selecting and joining isolated parts of the references to assert Applicant's invention would have been obvious.

C). The combination of references has no reasonable expectation of success.

As noted above, the proposed combination of references must have a reasonable expectation of success. As noted in the last response, which the Examiner again failed to respond to, the Examiner has failed to show how Takano could reasonably accommodate the proposed modifications. For example, the Examiner has failed to show whether Takano would be suitable for its intended purpose if the capacitive circuit of Hanna were included therein. There is no way to determine whether the electrical properties of Takano would be suitable without extensive analysis and re-design.

The Examiner states that the test is "what the combined teachings of the references would have suggested to those of ordinary skill in the art." This is true, unfortunately, the Examiner provides no analysis with regard to what the combined teachings of the references are.

For at least the aforementioned reasons, the Applicants respectfully assert that claims 3 – 6 are patentable under 35 U.S.C. § 103(a).

### 3. Conclusion

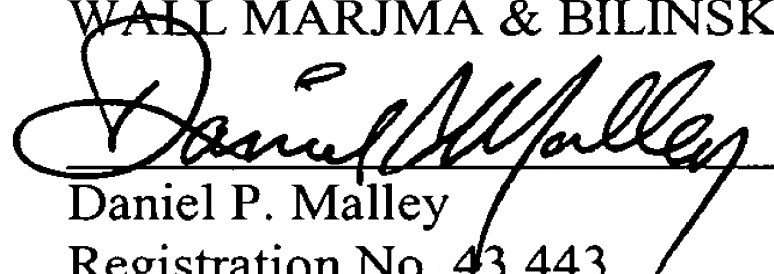
Based upon the above remarks and papers of record, Applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests reconsideration of the pending claims 1 – 6 and a prompt Notice of Allowance thereon.

Applicant believes that no extension of time is necessary to make this Response timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Response timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to the deposit account of the undersigned firm of attorneys, Deposit Account 50-0289.

Please direct any questions or comments to Daniel P. Malley at (607) 256-7307.

Respectfully submitted,

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